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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/678,397	10/03/2003	James D. McLean	7784-000596	3523	
27572	7590	04/21/2005	EXAMINER		
HARNESS, DICKEY & PIERCE, P.L.C.				ELDRIDGE, JOHN W	
P.O. BOX 828				ART UNIT	
BLOOMFIELD HILLS, MI 48303				PAPER NUMBER	
				3644	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/678,397	MCLEAN ET AL.
	Examiner J. Woodrow Eldred	Art Unit 3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 31 January 2005.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-38 is/are pending in the application.  
 4a) Of the above claim(s) 34-38 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-33 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

1. Newly submitted claims 34-38 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The original claims are directed to apparatus claims directed to an airfoil, while the new claims are directed to a method of tailoring the geometry of an airfoil using three-dimensional pressure distribution data and using different methods of obtaining data.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 34-38 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 32 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 32, “tailored in accordance with … data including information related to … shock location” is vague and indefinite. This language apparently tries to include a method step within an apparatus claim. In addition, the terms “in accordance with” and “related to” are themselves indefinite since it is not clear exactly what information is being included within the claim limitation.

Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim. It is not clear exactly what structural and pressure distributions are being required by the claim.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10, 12-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lotz et al in view of Grant.

Lotz et al disclose an airfoil comprising a leading airfoil element with upper and lower surfaces, a trailing airfoil with upper and lower surfaces, and a slot defined by the airfoil during a transonic condition of the airfoil where the adjustable slot allows a portion of the air flowing along the lower surface of the leading airfoil element to split and flow over the upper surface of the trailing airfoil element. See especially Figure 1b and column 5, lines 25-35 and column 6, lines 58-61. Lotz et al fail to specify that the airfoil is "swept" or that the slot is "full-span". Grant teaches, see especially Figure 1, that it is well known in an aircraft to have both swept wings and a full-span slot. Motivation to combine is the specification of a particular, i.e. swept, wing for an unspecified type, with the attendant advantages of great efficiency at high speeds. Likewise, the full-span slot and trailing airfoil allows greater control due to larger reacting areas of the airfoil. To employ the teachings of Grant on the airfoil of Lotz et al and have a swept wing with a full-span slot is considered to have been obvious to one having ordinary skill in the art.

6. Applicant's arguments filed 1-31-05 have been fully considered but they are not persuasive in regard to the claims rejected over art in the present action. Applicant's main argument is that the present invention has a "three-dimensional shape tailored to improve transonic performance" but Lotz fails to address the three-dimensional shape of the slot or airfoil and only deals with the two-dimensional aspects of an airfoil. This is not considered persuasive because Lotz clearly deals with a three-dimensional airfoil and slot in a number of different ways. For example, column 5, lines 48-68 clearly teach the (three-dimensional) curvature of portions of the airfoil and, Figure 1b clearly pictures the three-dimensional aspect of the airfoil

and slot. It is true that Lotz does not disclose the fluid dynamic modeling for the airfoil that Applicant's disclosure describes, but these limitations are not set forth in the structural limitations of the current claim language.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-77 of copending Application No. 10/678,474. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim the same airfoil elements in slightly different language, including the obvious limitation of a "full-span" slot instead of a "span-wise" slot.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. If a proper terminal disclaimer were filed in this case, then Claims 11 and 31 would be objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is 571-273-6901. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*J. Woodrow Eldred*  
J. Woodrow Eldred  
Primary Examiner  
Art Unit 3644

JWE